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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,984	10/22/2003	Ta-Chau Chang	08919-112001 / 07A-920702	4721
26161	7590	09/17/2004	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			POWERS, FIONA	
			ART UNIT	PAPER NUMBER
			1626	

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/690,984	CHANG ET AL.	
	Examiner	Art Unit	
	Fiona T. Powers	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-22 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/19/04</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Sequence Notice to Comply</u> . |

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Receipt is acknowledged of the information disclosure statement filed April 19, 2004, which has been entered in the file.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 to 3 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 2002-172864 or Krieg et al. (Chemical Abstracts, 134:159233, 2000), cited.

The references disclose the claimed compounds wherein each of rings A and B is heteroaryl containing one nitrogen atom, X and Y is CH or N, m and n are each 1 and R₁-R₃ and R₄-R₆ are hydrogen and R₇ is C₁-, C₂- or C₄-alkyl. Note Compound Nos. 19, 21, 22, and 28 to 30 on page 13 of Japanese Patent 2002-172864 and Registry No. 325158-94-9 of Krieg et al.

Claims 1 to 5 and 9 to 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Duan et al. (Chemical Abstracts, 134:107619, 2000), cited.

The reference discloses the claimed compounds wherein each of rings A and B is heteroaryl containing one nitrogen atom, X

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and Y is CH, m and n are each 1 and R₁-R₃ and R₄-R₆ are hydrogen and R₇ is H, C₂- or C₈-alkyl. Note Registry Nos. 319018-38-7, 319018-40-1 and 319018-41-2.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 to 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2002-172864 or Krieg et al. (Chemical Abstracts, 134:159233, 2000).

Determination of the scope and content of the prior art (MPEP §2141.01)

Krieg et al. Disclose 3,60diamino-9-ethylcarbazole derivatives that are useful as chromagens for the detection of peroxidase activity/hydroperoxides or related redox systems. Japanese Patent 2002-172864 discloses carbazole derivatives that are useful in optical information recording medium. The compounds of the references are structurally similar to the claimed compounds wherein each of rings A and B is heteroaryl containing one nitrogen atom, X and Y is CH or N, m and n are each 1 and R₁-R₃ and R₄-R₆ are hydrogen and R₇ is C₁-, C₂- or C₄-alkyl. Note Compound Nos. 19, 21, 22, and 28 to 30 on page 13

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of Japanese Patent 2002-172864 and Registry No. 325158-94-9 of Krieg et al.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The compounds of the reference differ from those claimed in that they are homologs. For example, the group represented by R₇ is ethyl instead of methyl or propyl.

Finding of prima facie obviousness---rational and motivation (MPEP §2142-2413)

It has been held that homologs are obvious over one another. One of ordinary skill in the art would have been motivated to make the claimed compounds with the expectation that compounds with similar properties would be obtained. The claimed compounds would have been rendered obvious by the homologs of the references in the absence of any unobvious property.

Claims 1 to 5 and 9 to 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duan et al. (Chemical Abstracts, 134:107619, 2000).

Determination of the scope and content of the prior art (MPEP §2141.01)

The reference discloses carbazole derivatives that are useful as nonlinear optical materials. The compounds of the reference are structurally similar to the claimed compounds wherein each of rings A and B is heteroaryl containing one nitrogen atom, X and Y is CH, m and n are each 1 and R₁-R₃ and

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R₄-R₆ are hydrogen and R₇ is H, C₂- or C₈-alkyl. Note Registry

Nos. 319018-38-7, 319018-40-1 and 319018-41-2.

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Claims 6 to 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12 to 22 are allowed.

The references made of record and not relied upon show the state of the art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fiona T. Powers whose telephone number is (571)272-0702. The examiner can normally be reached on Monday - Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on (571)272-0699. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fiona T. Powers
Fiona T. Powers
Primary Examiner
Art Unit 1626

ftp
September 15, 2004